UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,440	04/29/2005	Gavan Edmund Rosman	P07792US01/DEJ	4096

881 7590 03/06/2006

STITES & HARBISON PLLC
1199 NORTH FAIRFAX STREET
SUITE 900
ALEXANDRIA, VA 22314

EXAMINER	
CHU, CHRIS H	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/533,440	ROSMAN ET AL.	
	Examiner	Art Unit	
	Chris H. Chu	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20,22-24,26-34,36-40,42 and 43 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-3,6,10-12,16-18,26,27,31,33,39,40,42 and 43 is/are rejected.

7)☒ Claim(s) 4,5,7-9,13-15,19,20,22-24,28-30,32,34 and 36-38 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 29 April 2005 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The prior art documents submitted by applicant in the Informational Disclosure Statements filed on April 29, 2005 have all been considered and made of record (note the attached copy of form PTO-1449).

Drawings

Ten (10) sheets for formal drawings were filed April 29, 2005 and have been accepted by the Examiner.

Specification

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 10, 11, 16, 26, 39 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Seibel et al. (6,294,775).

Regarding claims 1, 10 and 16, Seibel et al. discloses a scanning apparatus and a method for scanning comprising a light transmission means having an exit tip (waveguide 36 in Fig. 14), first and second drive means (actuators 124 and 125 in Fig. 14 and column 13, lines 48-53) for resonantly driving said light transmission means in orthogonal directions, wherein said first and second drive means are operable to move said tip in an elliptical pattern while varying the eccentricity of said elliptical pattern (see column 17, lines 5-10).

Regarding claims 11 and 26, Seibel et al. discloses a scanning apparatus and a method for scanning wherein the light transmission means is driven magnetically in column 8, lines 30-32.

Regarding claims 39 and 42, Seibel et al. discloses a confocal endoscope including the scanning apparatus and a method for scanning in the background of the invention section, column 1, lines 21-22 and column 3, lines 1-4.

Claim 31 is rejected under 35 U.S.C. 102(b) as being anticipated by Bridgelall et al. (5,821,521).

Regarding claim 31, Bridgelall et al. discloses a scanning apparatus comprising an X drive for driving a light transmission means having an exit tip (see oscillating mirror 50 in fig. 1B and column 10, lines 16-18) in an X direction, a Y drive for driving said light transmission means in a Y direction, an X drive input signal generator (84 in Fig. 13A) for providing an X drive input signal; and a Y drive input signal generator (86 in Fig. 13A) for providing a Y drive input signal modulated by a modulating signal derived from

said X drive input signal wherein said exit tip executes a scan pattern when driven simultaneously by said X drive and said Y drive in Fig. 13A and column 16, lines 36-42.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seibel et al. (6,294,775).

Regarding claims 2, 3, 17 and 18 Seibel et al. teaches the claimed invention except for specifically stating that the length of the minor axis is varied. However, Seibel et al. discloses a variable elliptical scan pattern with varying radii, and one having ordinary skill in the art at the time of the invention would have found it obvious to vary either the major or the minor axis for the purpose of scanning over the entire surface of the area to be scanned.

Regarding claim 6, Seibel et al. teaches the claimed invention except for specifically stating the elliptical pattern to have a major axis and minor axis in the ratio of approximately two. However, Seibel et al. discloses a variable elliptical scan pattern with varying radii, and one having ordinary skill in the art at the time of the invention would have found it obvious to have a major axis to minor axis ratio of approximately two depending on the size and shape of the area to be scanned.

Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seibel et al. (6,294,775) in view of Bridgelall et al. (5,821,521).

Regarding claims 12 and 27, Seibel et al. teaches the claimed invention except for the magnet acted on by mutually perpendicular coils or windings. Bridgelall et al. teaches a magnet attached to a light transmission means in a scanning system wherein the magnet is acted on by mutually perpendicular coils in column 19, lines 25-27 and Figs. 21A and 21B. Since both inventions relate to scanning devices, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use coils to control a magnet as disclosed by Bridgelall et al. in the scanning apparatus disclosed by Seibel et al. for the purpose of providing the capability to switch between 1-D or 2-D scan patterns.

Claims 33, 40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridgelall et al. (5,821,521) in view of Seibel et al. (6,294,775).

Regarding claim 33, Bridgelall et al. teaches the claimed invention except for the scan pattern to be elliptical. Seibel et al. teaches a scanning apparatus with elliptical scanning patterns in column 17, lines 5-10. By definition, an ellipse with an eccentricity of zero is a circle and since Seibel et al. only mentions elliptical scanning patterns, it is implied that the eccentricity would always be greater than zero. Since both inventions relate to scanning devices, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use elliptical scanning patters as disclosed by Seibel et al. in the scanning apparatus disclosed by Bridgelall et al. since they are

desirable for certain kinds of scanning devices, including single actuator, small sized eye-tracking and bar-code reading devices.

Regarding claims 40 and 43, Bridgelall et al. teaches the claimed invention except for the scanning apparatus to be used in a confocal endoscope, microscope or endomicrosope. Seibel et al. teaches a confocal endoscope including a scanning apparatus in the background of the invention section, column 1, lines 21-22 and column 3, lines 1-4. Since both inventions relate to scanning devices, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the scanning apparatus as disclosed by Bridgelall et al. in a confocal endoscope as disclosed by Seibel et al. for the purpose of having a scanning system that is magnetically activated by coils.

Allowable Subject Matter

Claims 4, 5, 7-9, 13-15, 19, 20, 22-24, 28-30, 32, 34 and 36-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art cited on attached form PTO-892 is the most relevant prior art known, however, the invention of these claims distinguishes over the prior art of record because none of the references either alone or in combination disclose or render obvious what is defined in these claims.

Regarding claims 4, 5, 19 and 20, the prior art of record fails to teach or fairly suggest an apparatus or method of scanning including repeatedly varying the eccentricity of an elliptical patter between a minimum value and one along with the limitations of any base claims.

Regarding claims 7 and 22, the prior art of record fails to teach or fairly suggest an apparatus or method of scanning including modulating the eccentricity of the minor axis of the elliptical pattern between positive and negative extremes, so that the tip moves in both clockwise and counterclockwise directions in the course of a single complete scan along with the limitations of any base claims.

Regarding claim 8 and 23, the prior art of record fails to teach or fairly suggest an apparatus or method of scanning including driving the tip with an X drive parallel to the major axis of the elliptical pattern and with a Y drive parallel to the minor axis of the elliptical pattern, and synchronizing at a constant phase to the X scan to allow interfacing to a standard raster display along with the limitations of any base claims. Claim 9 depends from claim 8 and claim 24 depends from 23.

Regarding claims 13, 28 and 37, the prior art of record fails to teach or fairly suggest an apparatus or method of scanning including a further drive coil and a sensing coil indicating the position of the magnet and deriving an input signal for the further drive coil from the output signal along with the limitations of any base claims. Claim 14 depends from claim 13 and claim 29 depends from 28.

Regarding claims 15 and 30, the prior art of record fails to teach or fairly suggest an apparatus or method of scanning wherein the light transmission means is provided

with a coat of magnetic material or a close-fitting magnetic tube along with the limitations of any base claims.

Regarding claim 32, the prior art of record fails to teach or fairly suggest a scanning apparatus with an x drive input signal that comprises a square wave, a y drive input signal that comprises a sawtooth signal and is modulated by a modulating signal derived from the x drive input signal along with the limitations of any base claims. Claims 34, 36 and 38 depend from claim 32.

Conclusion

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris H. Chu whose telephone number is 571-272-8655. The examiner can normally be reached on 8:30 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562.

Chris H. Chu
Patent Examiner
February 27, 2006

MICHELLE CONNELLY-CUSHWA
PRIMARY EXAMINER
3/1/06